

ABSTRACT

The present invention relates to an apparatus and method for withdrawing and dewatering slag from a gasification system. In particular, the present invention relates to a conveying lockhopper and method of using the conveying lockhopper to collect slag and other waste byproducts from the gasifier of a gasification system. The conveying lockhopper is configured to receive slag from a gasifier, simultaneously extract and dewater the slag, and expel the processed slag directly into an awaiting container suitable for carrying the processed slag away. The conveying lockhopper generally comprises a housing with inlet and outlet valves to receive and expel slag, respectively. The housing is inclined at an angle typically between 5 and 60 degrees to the horizontal so that the outlet is at a higher elevation than the inlet. Inside the housing, an auger or similar conveying mechanism conveys the slag from the inlet towards the outlet while simultaneously dewatering the slag. As a result, the processed slag that is discharged at the outlet is fully processed and ready to be transported away.